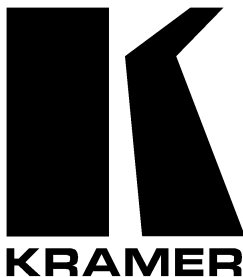


Kramer Electronics, Ltd.



USER MANUAL

Model:

VM-30CA

1:3 Video Component / Audio Distributor

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups¹, which are clearly defined by function.

Congratulations on purchasing your Kramer **VM-30CA 1:3 Video Component / Audio Distributor**, which is ideal for the following applications:

- Duplication studios
- Broadcasting, production, or presentation systems requiring high quality signal distribution
- Retail outlets or sports bars

The package includes the following items:

- **VM-30CA 1:3 Video Component / Audio Distributor**
- Power adapter (12V DC Input)
- This user manual²

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables³

2.1 Quick Start

This Quick start chart summarizes the basic setup and operation:

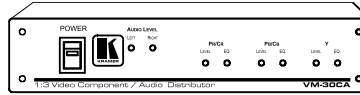
1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from our Web site: <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

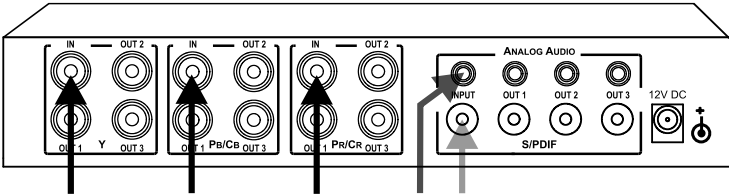
Step 1: Mount the machine

Rack-mount the machine using a 19" rack adapter RK-1, or stick the 4 rubber feet to the underside



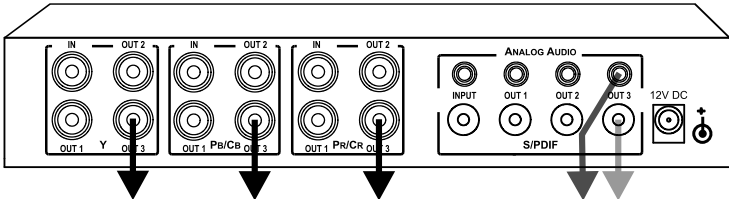
Step 2: Connect the inputs - see section 5

Connect the video and the audio inputs



Step 3: Connect the outputs - see section 5

Connect the video and audio outputs (from 1 to 3)



YOU DO NOT HAVE TO CONNECT ALL THE OUTPUTS

Step 4: Turn the power ON

If required, adjust the front panel:

- Component video EQ. and level
- Analog audio level



3 Overview

The Kramer **VM-30CA** *1:3 Video Component / Audio Distributor* is a high performance 1:3 distributor for component video signals (HDTV compatible), digital audio (S/PDIF) signals, and unbalanced stereo audio signals.

The **VM-30CA** accepts one:

- Component video¹ signal and distributes the signal to three identical outputs using RCA connectors
- Digital audio (S/PDIF) input and distributes it to three digital audio (S/PDIF) outputs using RCA connectors
- Unbalanced stereo audio input and distributes it to three unbalanced stereo audio outputs using 3.5mm jacks

In addition, the **VM-30CA** features:

- A video bandwidth of 400MHz that ensures transparent operation at the highest resolutions
- Front panel trimmers to control the level and EQ. of the Y, PB/CB, and PR/CR video components
- Audio level control for the unbalanced stereo audio outputs

The **VM-30CA** is housed in a desktop-sized enclosure, and is 12V DC fed.

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality and position your Kramer **VM-30CA** away from moisture, excessive sunlight and dust



Caution – No operator-serviceable parts inside unit.

Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit².

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

¹ Sometimes called YUV, or Y, B-Y, R-Y, or Y, P_B, P_R, or Y, C_B, C_R

² For example: model number AD2512C, part number 2535-000251

4 Your VM-30CA 1:3 Video Component / Audio Distributor

Figure 1 and Table 1 define the front and rear panels of the **VM-30CA**:

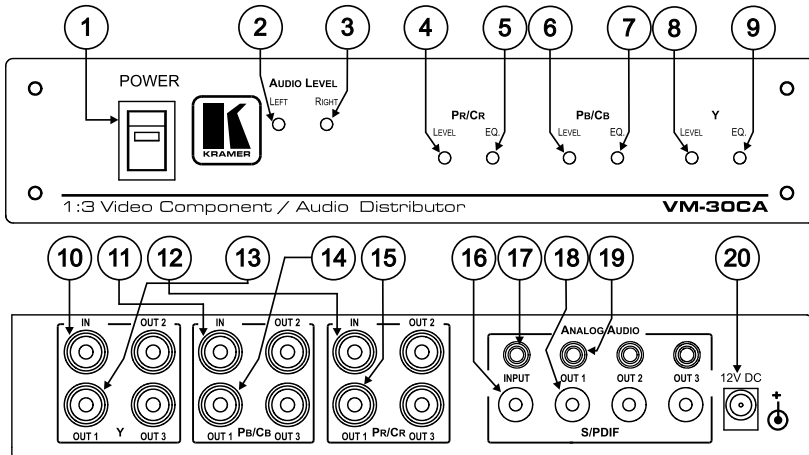


Figure 1: VM-30CA 1:3 Video Component / Audio Distributor

Table 1: VM-30CA 1:3 Video Component / Audio Distributor Features

#	Feature		Function
1	POWER Switch		Illuminated switch supplying power to the unit
2	AUDIO LEVEL	LEFT Trimmer	Adjust ¹ the left audio signal output level
3		RIGHT Trimmer	Adjust ¹ the right audio signal output level
4	Pr/Cr	LEVEL Trimmer	Adjust ¹ the Pr/Cr output signal level
5		EQ. Trimmer	Adjust ¹ the Pr/Cr cable compensation equalization level
6	Pb/Cb	LEVEL Trimmer	Adjust ¹ the Pb/Cb output signal level
7		EQ. Trimmer	Adjust ¹ the Pb/Cb cable compensation equalization level
8	Y	LEVEL Trimmer	Adjust ¹ the Y output signal level
9		EQ. Trimmer	Adjust ¹ the Y cable compensation equalization level
10	OUT	Y RCA Connector	Connect to the component video acceptors (from OUT 1 to OUT 3)
11		PB/CB RCA Connector	
12		Pr/Cr RCA Connector	
13		Y RCA Connectors	
14	OUT	Pb/Cb RCA Connectors	Connect to the component video acceptors (from OUT 1 to OUT 3)
15		Pr/Cr RCA Connectors	
16	S/PDIF INPUT RCA Connector		Connects to the digital audio source
17	ANALOG AUDIO INPUT 3.5m Socket		Connect to the unbalanced audio source
18	S/PDIF OUT RCA Connector		Connects to the digital audio acceptor (from 1 to 3)
19	ANALOG AUDIO OUT 3.5m Socket		Connect to the unbalanced audio acceptor (from 1 to 3)
20	12VDC		+12V DC connector for powering the unit

¹ Insert a screwdriver into the small hole and carefully rotate it, to trim the appropriate level

5 Connecting the VM-30CA

To connect a **VM-30CA** unit as the example in Figure 2 illustrates, do the following¹:

1. Connect a component video source (for example, an HDTV satellite receiver) to the Y, PB/CB, and PR/CR IN RCA connectors, and to the S/PDIF INPUT RCA connector.
2. Connect² the:
 - Y, PB/CB, and PR/CR OUT 1 RCA connectors to the component video acceptor (for example, a plasma display), and the digital audio S/PDIF³ OUT 1 RCA connector to an AV-Receiver
 - Y, PB/CB, and PR/CR OUT 3 RCA connectors and the digital audio S/PDIF³ OUT 3 RCA connector to a home theater system (to which a projector and speakers are connected)
3. Connect a 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in Figure 2).
4. If required, adjust⁴ the audio level, the Y, PB/CB, and/or PR/CR output signal level, and/or the Y, PB/CB, and/or PR/CR cable compensation equalization level.

1 Switch OFF the power on each device before connecting it to your VM-30CA. After connecting your VM-30CA, switch on its power and then switch on the power on each device

2 You can connect three component video output connectors to up to three component video acceptors. When less than three outputs are required, connect only those outputs of the VM-30CA that are required, and leave the other outputs unconnected

3 Alternatively, connect the ANALOG AUDIO 3.5m socket (not shown in Figure 2)

4 Insert a screwdriver into the small hole and carefully rotate it, trimming the level

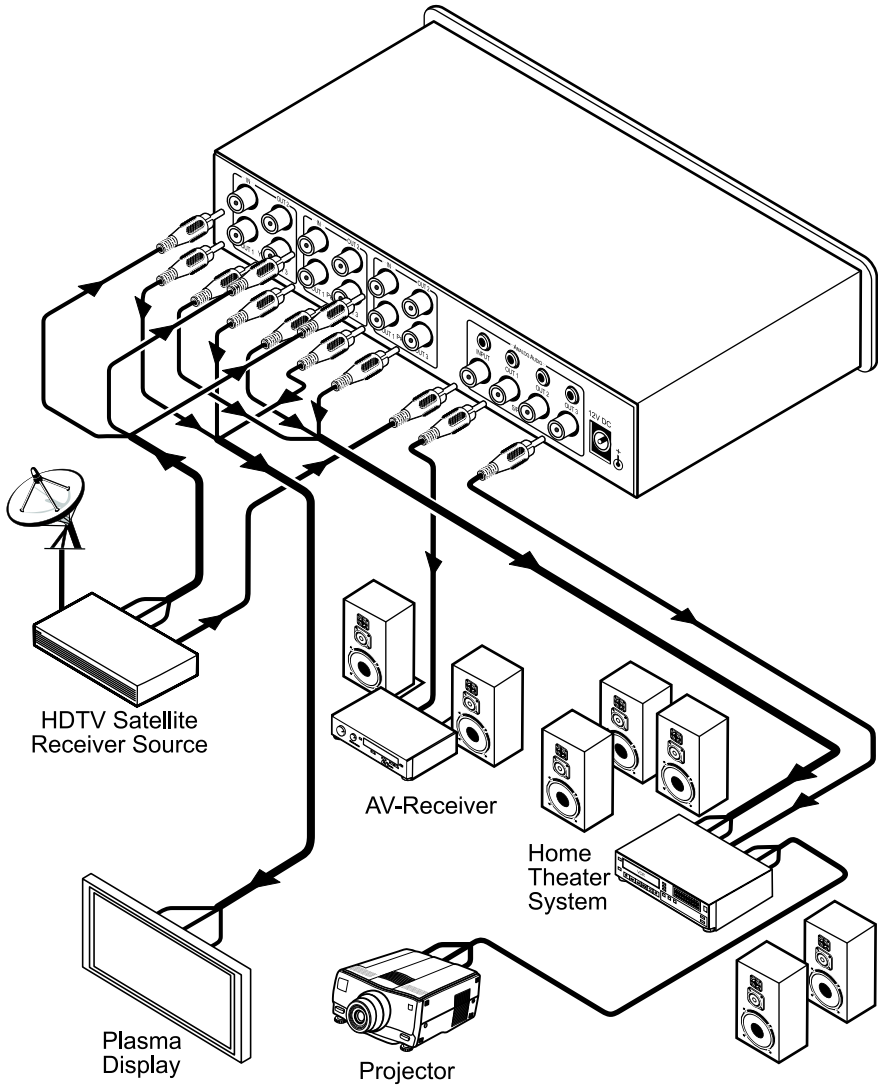


Figure 2: Connecting the VM-30CA 1:3 Video Component / Audio Distributor

6 Technical Specifications

Table 2 includes the technical specifications.

Table 2: Technical Specifications¹ of the VM-30CA

INPUTS:	1 component video (Y, Pb/Cb, Pr/Cr) 1Vpp, 0.7Vpp, 0.7Vpp / 75Ω on RCA connectors 1 digital audio (S/PDIF) 75Ω on RCA connectors 1 unbalanced stereo audio +4dBm (nominal)/50kΩ on RCA connectors	
OUTPUTS:	3 component video (Y, Pb/Cb, Pr/Cr) 1Vpp, 0.7Vpp, 0.7Vpp / 75Ω on RCA connectors 3 digital audio (S/PDIF) 75Ω on RCA connectors 3 unbalanced stereo audio +4dBm (nominal)/150Ω on RCA connectors	
MAX. OUTPUT LEVEL:	VIDEO: 2.3Vpp	AUDIO: 1.8pp (S/PDIF); 25dBm (analog)
BANDWIDTH (-3dB):	VIDEO: 400MHz, Fully Loaded	AUDIO: >100kHz
DIFF. GAIN:	0.03%	
DIFF. PHASE:	0.03 Deg	
K-FACTOR:	<0.05%	
S/N RATIO:	VIDEO: 74dB	AUDIO: 87dB (analog)
CONTROLS:	Level: -4.1dB to +6.4dB; Equalization: 0dB to +6.3dB; Audio: -70dB to +6.2dB	
COUPLING:	VIDEO: DC	AUDIO: Input: AC; Output: DC
AUDIO THD + NOISE:	0.065%	
AUDIO 2nd HARMONIC:	0.002%	
POWER SOURCE:	12V DC 500mA	
DIMENSIONS:	21.5cm x 16.3cm x 4.4cm (8.4" x 6.4" x 1.7") W, D, H	
WEIGHT:	3.7 kg (8.2 lbs.) approx.	
ACCESSORIES:	Power supply	
OPTIONS:	RK-1 Rack adapter	

¹ Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
 - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
 - ii) Product modification, or failure to follow instructions supplied with the product
 - iii) Repair or attempted repair by anyone not authorized by Kramer
 - iv) Any shipment of the product (claims must be presented to the carrier)
 - v) Removal or installation of the product
 - vi) Any other cause, which does not relate to a product defect
 - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or;
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);
generic emission standard.
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC Rules and Regulations:
Part 15: "Radio frequency devices
Subpart B – Unintentional radiators"

CAUTION!

- ☒ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ☒ Use the supplied DC power supply to feed power to the machine.
- ☒ Please use recommended interconnection cables to connect the machine to other components.



For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found. We welcome your questions, comments and feedback.



Caution

Safety Warning:

Disconnect the unit from the power supply before opening/servicing.



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